

Claims

1. A method for providing at least one program to a customer of a utility of a commodity, the program aimed at managing demand for the commodity, the utility delivering the commodity to at least one customer site, the customer site having a plurality of devices which use the commodity, including the steps of:

defining a program having a subset of the plurality of devices for which usage of the commodity may be managed by activating the program;

allowing the customer to subscribe to the program;

delivering the commodity to the subset of devices;

measuring the instantaneous rate at which the commodity is being delivered to the subset of the devices;

sending the instantaneous rate for each device within the subset to the utility.

2. A method, as set forth in claim 1, including the steps of:

activating the program; and,

subsequently measuring at least one of a rate and a change in a rate at which the commodity is being delivered to the subset of the devices.

3. A method, as set forth in claim 2, including the step of determining an actual change in a rate of consumption of the commodity and recording the rate of change in a memory.

4. A method, as set forth in claim 3, including the step of providing at least one of an alternative rate and a billing adjustment to the customer as a function of the actual capacity saved at the related customer site by the program.

5. A method, as set forth in claim 4, wherein the at least one of an alternative rate and a billing adjustment is also a function of historical usage information.

6. A method, as set forth in claim 4, wherein the at least one of an alternative rate and a billing adjustment is a function of an actual cost related to the commodity while the program is activated.

7. A method, as set forth in claim 2, including the step of verifying management of the devices within the subset of the devices.

8. A method, as set forth in claim 1, including the step of providing a user interface for interaction with the customer.

9. A method, as set forth in claim 8, wherein the user interface is accessible through a web browser.

10. A method, as set forth in claim 1, wherein each device has an associated node, and the method includes the step of allowing the customer to control one or more of the devices through the associated node.

11. A method, as set forth in claim 1, wherein the utility delivers the commodity to a plurality of customer sites, each customer site having a plurality of devices and the step of defining the program includes the step of including within the program all devices of a similar type at each customer site.

12. A method, as set forth in claim 1, wherein the utility delivers the commodity to a plurality of customer sites, each customer site having a plurality of devices and the step

of defining at least one program includes the step of defining a plurality of programs, each program having a respective subset of the devices.

13. A method, as set forth in claim 1, including the steps of:
activating the program; and,
allowing the customer to cancel the program when activated.
14. A method, as set forth in claim 1, including the steps of:
setting a budget goal; and,
monitoring an aspect of usage of the commodity related to the budget goal.
15. A method, as set forth in claim 14, wherein the budget goal is defined in terms of usage of the commodity.
16. A method, as set forth in claim 14, wherein the budget goal is defined in terms of cost of actual amount of the commodity used.
17. A method, as set forth in claim 14, wherein the budget goal is defined relative to a predetermined time period and the method includes the step of generating an alert if actual usage will exceed the budget goal in the predetermined time period.
18. A method, as set forth in claim 17, wherein the alert is sent to the customer.
19. A method, as set forth in claim 17, wherein the alert is sent to the utility.
20. A method, as set forth in claim 1, wherein the commodity is electrical power.
21. A method, as set forth in claim 1, wherein the commodity is water.

22. A method, as set forth in claim 1, wherein the commodity is gas.

23. A method, as set forth in claim 1, including the step of automatically activating the program under a predetermined set of conditions.

24. A method, as set forth in claim 23, wherein the predetermined set of conditions includes at least one of a time of day and a day.

25. A method, as set forth in claim 1, including the step of manually activating the program as a function of an actual demand of the commodity.

26. A method, as set forth in claim 1, wherein the program at least one of shifts demand away from a first time period and eliminates demand for the first period.

27. A method, as set forth in claim 1, including the step of controlling the subset of devices in response to activation of the program.

28. A method, as set forth in claim 27, wherein the step of controlling the subset of devices includes the step of at least one of preventing and limiting usage of the commodity during a predetermined period of time.

29. A method, as set forth in claim 27, wherein at least one of the devices has an operating setpoint, and wherein the step of controlling the subset of devices includes the step of modifying the setpoint.

30. A method, as set forth in claim 1, wherein each device has an associated node, and the method includes the step of downloading to each node, a program schedule containing scheduling information for the program.

31. A method for providing at least one program to a customer of a utility of a commodity, the program aimed at managing demand for the commodity, the utility delivering the commodity to at least one customer site, the customer site having a plurality of devices which use the commodity, including the steps of:

- defining a program having a subset of the plurality of devices for which usage of the commodity may be managed by activating the program;
- allowing the customer to subscribe to the program;
- delivering the commodity to the subset of devices;
- measuring the instantaneous rate at which the commodity is being delivered to the subset of the devices;
- sending the instantaneous rate for each device within the subset to the utility;
- activating the program;
- determining an actual rate of change in consumption of the commodity induced by activating of the program; and,
- providing a at least one of an alternative rate and billing adjustment to at least one customer as a function of the actual capacity saved at the related customer site by the program.

32. A method for providing at least one program to a customer of a utility of a commodity, the program aimed at managing demand for the commodity, the utility delivering the commodity to at least one customer site, the customer site having a plurality of devices which use the commodity, including the steps of:

- defining a program having a subset of the plurality of devices for which usage of the commodity may be managed by activating the program;

- allowing the customer to subscribe to the program;
- delivering the commodity to the subset of devices;
- measuring the instantaneous rate at which the commodity is being delivered to the subset of the devices;
- sending the instantaneous rate for each device within the subset to the utility;
- activating the program; and,
- verifying management of the devices within the subset of the devices.

33. A system for providing a program to a customer of a utility of a commodity, the utility delivering the commodity to at least one customer site, the customer site having a plurality of devices which use the commodity, the program aimed at managing demand for the commodity and having a subset of the plurality of devices for which usage of the commodity may be managed by activating the program, comprising:

- a user interface for allowing the customer to subscribe to the program;
- a distribution network coupled to the subset of devices for delivering the commodity to the subset of devices; and,
- at least one node coupled to the subset of devices for measuring the instantaneous rate at which the commodity is being delivered to the subset of the devices and for sending the instantaneous rate for each device within the subset to the utility.

34. A system, as set forth in claim 33, further comprising a control system coupled to the distribution network for controlling delivery of the commodity and activating the program, the at least one node adapted to subsequently measure the rate at which the commodity is being delivered to the subset of the devices.

35. A system, as set forth in claim 34, wherein the control system determines an actual rate of change in the rate of consumption induced by activating the program.

36. A system, as set forth in claim 35, wherein the control system determines at least one of an alternative rate and billing adjustment to the customer as a function of the actual capacity saved at the related customer site by the program.

37. A system, as set forth in claim 36, wherein the at least one of an alternative rate and billing adjustment is also a function of historical usage information.

38. A system, as set forth in claim 36, wherein the at least one of an alternative rate and billing adjustment is a function of an actual cost related to the commodity while the program is activated.

39. A system, as set forth in claim 34, wherein the control system including verifies curtailment of the devices within the subset of the devices.

40. A system, as set forth in claim 33, wherein the user interface is accessible through a web browser.

41. A system, as set forth in claim 33, wherein each device has an associated node for allowing the customer to control one or more of the devices through the associated node.

42. A system, as set forth in claim 33, wherein the utility delivers the commodity to a plurality of customer sites, each customer site having a plurality of devices and the program includes all devices of a similar type at each customer site.

43. A system, as set forth in claim 33, wherein the utility delivers the commodity to a plurality of customer sites, each customer site having a plurality of devices, wherein a plurality of programs are defined, each program having a respective subset of the devices.

44. A system, as set forth in claim 33, wherein the user interface allows the customer to cancel the program after it has been activated.

45. A system, as set forth in claim 33, wherein the user interface allows the customer to set a budget goal and the at least one node monitors an aspect of usage of the commodity related to the budget goal.

46. A system, as set forth in claim 45, wherein the budget goal is defined in terms of usage of the commodity.

47. A system, as set forth in claim 45, wherein the budget goal is defined in terms of cost of actual amount of the commodity used.

48. A system, as set forth in claim 45, wherein the budget goal is defined relative to a predetermined time period and the at least one node generates an alert if actual usage will exceed the budget goal in the predetermined time period.

49. A system, as set forth in claim 48, wherein the alert is sent to the customer.

50. A system, as set forth in claim 48, wherein the alert is sent to the utility.

51. A system, as set forth in claim 33, wherein the commodity is electrical power.

52. A system, as set forth in claim 33, wherein the commodity is water.

53. A system, as set forth in claim 33, wherein the commodity is gas.
54. A system, as set forth in claim 34, wherein the control system automatically activates the program under a predetermined set of conditions.
55. A system, as set forth in claim 54, wherein the predetermined set of conditions includes at least one of a time of day and a day.
56. A system, as set forth in claim 34, wherein the control system allows the program to be manually activated as a function of an actual demand of the commodity.
57. A system, as set forth in claim 33, wherein the program at least one of shifts demand away from a first time period and eliminates demand from the first time period
58. A system, as set forth in claim 34, wherein the control system controls the subset of devices in response to activation of the program.
59. A system, as set forth in claim 58, wherein the control system at least one of prevents and limits usage of the commodity during a predetermined period of time.
60. A system, as set forth in claim 34, wherein at least one of the devices has an operating setpoint, and wherein control system the subset of devices by modifying the setpoint.
61. A system, as set forth in claim 34, wherein the control system downloads a program schedule containing scheduling information for the program to the at least one node.

62. A system for providing at least one program to a customer of a utility of a commodity, the utility delivering the commodity to at least one customer site, the customer site having a plurality of devices which use the commodity, the program aimed at managing reducing demand for the commodity and having a subset of the plurality of devices for which usage of the commodity may be managed by activating the program, comprising:

a user interface for allowing the customer to subscribe to the program;

a distribution network coupled to the subset of devices for delivering the commodity to the subset of devices;

at least one node coupled to the subset of the devices for measuring the instantaneous rate at which the commodity is being delivered to the subset of the devices and for sending the instantaneous rate for each device within the subset to the utility;

a control system coupled to the user interface, the distribution network and the at least one node for controlling delivery of the commodity, for activating the program, for determining at least one of an actual rate of consumption of the commodity and a change in the rate of consumption by activating of the program, and for providing at least one of an alternative rate and a billing adjustment to at least one customer as a function of the actual rate of consumption saved at the related customer site by the program.

63. A system for providing at least one program to a customer of a utility of a commodity, the utility delivering the commodity to at least one customer site, the customer site having a plurality of devices which use the commodity, the program aimed at managing demand for the commodity and having a subset of the plurality of devices for which usage of the commodity may be managed by activating the program, comprising:

a user interface for allowing the customer to subscribe to the program;

a distribution network coupled to the subset of devices for delivering the commodity to the subset of devices;

at least one node coupled to the subset of devices for measuring the instantaneous rate at which the commodity is being delivered to the subset of the devices and for sending the instantaneous rate for each device within the subset to the utility; and,

a control system for activating the program and verifying management of the devices within the subset of the devices.